UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

MICHAEL STERN, et al., Plaintiffs, v. SEQUAL TECHNOLOGIES, INC., Defendant.	CASE NO. C10-1257JLR ORDER GRANTING DEFENDANT'S MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT

This patent infringement case comes before the court on Defendant SeQual Technologies, Inc.'s ("SeQual") motion for summary judgment of non-infringement. (Mot. (Dkt. # 27).) Plaintiffs Michael Stern and DigiFLO, Inc. ("DigiFLO") (collectively, "Plaintiffs") oppose the motion. (Resp. (Dkt. # 32).) Having considered the briefing of the parties, the oral arguments of counsel on January 3, 2012, the relevant law, and the balance of the record, the court GRANTS the motion (Dkt. # 27).

I. BACKGROUND

Mr. Stern is the inventor and owner of U.S. Patent No. 5,627,323 ("the '323 patent"), which was issued on May 6, 1997 and is entitled "Ultrasonic Binary Gas Measuring Device." (Stern Decl. (Dkt. # 33) ¶ 2; Compl. (Dkt. # 1) Ex. A ("Patent").) The abstract of the '323 patent describes the patented invention as "[a] method and apparatus to continuously measure the ratio of gases in a binary gas mixture."[1] (Patent.) The '323 patent contains three independent claims and 22 dependent claims. (*See generally id.*)

DigiFLO is the exclusive licensee of the '323 patent. (Compl. ¶ 2.) DigiFLO manufactures the ultrasonic oxygen and flow rate sensors that are protected by the '323 patent. (Stern Decl. ¶ 4.) SeQual was a customer of DigiFLO from June 2003 until April 2009. (*Id.*) During that period, SeQual purchased DigiFLO's sensors for use in SeQual's medical oxygen concentrators. (*Id.*) Some time prior to 2009, SeQual began to purchase increasingly fewer DigiFLO sensors because it had found a less expensive alternative sensor. (*Id.* ¶ 5.)

The instant lawsuit involves the parties' dispute over whether SeQual's alternative sensor, which is used in its "Eclipse" and "Integra" series of medical oxygen concentrators, infringes one or more claims of the '323 patent. (*See generally* Compl.

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[1] The '323 patent, as well as the parties' briefing, sometimes spells the plural of "gas" with one "s" and sometimes spells it with two. Both spellings are correct. Webster's New World Dictionary of American English 557 (Victoria Neufeld ed., 3d ed. 1988). For the sake of consistency, the court uses "gases" throughout this opinion, even when it is spelled differently in the quoted language of the '323 patent.

(alleging patent infringement under 35 U.S.C. § 271).) Plaintiffs also allege that SeQual has indirectly infringed the '323 patent. (*Id.*) SeQual has filed a counterclaim seeking a declaration of non-infringement and invalidity, and alleging patent misuse. (*See generally* Counterclaim (Dkt. # 6).)

In June 2010, pursuant to the court's scheduling order, the parties filed their opening claim construction briefs (Dkt. ## 24, 26). SeQual also filed the instant motion for summary judgment of non-infringement (Mot.) and motions to stay the *Markman* hearing (Dkt. # 35) and all other case deadlines (Dkt. # 42) pending the court's resolution of its summary judgment motion. The court granted the motions to stay (Dkt. ## 41, 45).

II. THE '323 PATENT

The three independent claims in the '323 patent—Claims 1, 10, and 12—are central to the parties' arguments regarding summary judgment. Accordingly, they are set forth in full here:

> **1.** A method of measuring the ratio of gases in a binary gas mixture comprising the steps of;
>
> transmitting a first sound wave from an initial transmission point through the gas mixture,
>
> detecting the arrival of said first sound wave at a receiving point a preselected distance from said initial transmission point,
>
> then, after a given delay, transmitting an echo wave from said receiving point in the opposite direction, through the gas mixture, back to said initial transmission point,
>
> said echo wave being of the same frequency and wave length as said first sound wave and superimposed thereon,
>
> receiving said echo wave at said initial transmission point,

then measuring the travel time from the initial transmission to the time of reception of said echo wave to provide a measure of the relative proportions of the gases in said mixture, and

providing a display indicative of the relative proportions of said gases.

* * * * *

10. In a sensor for determining the composition of a binary gas mixture, said sensor including a sealed gas chamber for containing said gas mixture, first and second acoustic transducers mounted a predetermined distance apart in said chamber and means for selectively energizing said transducers to transmit acoustic waves through said gas mixture, a gas ratio measurement system comprising in combination;

a switching network for alternately conditioning said transducers for transmitting and receiving said sound waves, and

a microprocessor apparatus connected to said switching network for conditioning said transducers such that one said transducers is energized to transmit a first sound wave of a given frequency and wave length to be received by the other transducer and the, immediately upon detection of said first sound wave, converting said other transducer to a transmitter and, within a given constant delay time, send a return echo sound wave of the same frequency and wave length to said one transducer superimposed on said first sound wave,

whereby the time from initial transmission of said first sound wave to the time of reception of said echo sound wave may be utilized to calculate the gas ratio measurement.

* * * * *

12. In a sensor for determining the composition of a binary gas mixture, said sensor including a sealed gas chamber for containing said gas mixture, said chamber comprising a hollow conduit having end walls and an elongated cylindrical side wall, first and second acoustic transducers mounted a predetermined distance apart in said chamber and means for selectively energizing said transducers to transmit acoustic waves through said gas mixture, a gas ratio measurement system comprising in combination;

> a first gas flow port in said side wall at one end of said conduit and a second gas flow port in said side wall at the other end thereof,
>
> means for generating gas flow in a given direction within said conduit between said gas ports,
>
> a switching network for alternately conditioning said transducers for transmitting and receiving said sound waves, and
>
> a microprocessor apparatus connected to said switching network for conditioning said transducers such that one said transducers is energized to transmit a first sound wave of a given frequency and wave length to be received by the other transducer and then, immediately upon detection of said first sound wave, converting said other transducer to a transmitter and, within a given constant delay time, send a return echo sound wave of the same frequency and wave length to said one transducer superimposed on said first sound wave,
>
> whereby the time from initial transmission of said first sound wave to the time of reception of said echo sound wave may be utilized to calculate the gas ratio measurement,
>
> said microprocessor apparatus including means to measure the difference between the travel time of said first sound wave and said echo sound wave and to calculate the flow rate of said gas therefrom.

(*See* Patent.)

III. DISCUSSION

Determining whether a particular product infringes an existing patent involves a two-step analysis. The court must first identify, as a matter of law, the proper construction of the asserted patent claim. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384–91 (1996). After the claim has been properly construed, the fact finder determines whether the accused device infringes the claim. *See, e.g., O.I. Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 1580 (Fed. Cir. 1997). As noted above, although the

parties have submitted claim construction briefs, the court has not yet held a *Markman* hearing.

SeQual contends that a summary judgment of non-infringement is proper because the three independent claims in the '323 patent require use of a binary gas mixture, and SeQual's products do not use a binary gas mixture (rather, they use ambient air, which is comprised of at least three gases). (Mot. at 1.) "Binary gas mixture" is not a term that the parties identified in their claim construction briefs. (*See* Dkt. ## 24, 26.) SeQual maintains in its briefing in support of summary judgment that the term means "a gas mixture that includes two gases." (Mot. at 1.)

Plaintiffs respond that summary judgment is improper for several reasons. First, they argue that SeQual's motion is an untimely request for claim construction of the term "binary gas mixture." (Resp. at 3-4.) Nevertheless, should the court address the merits of SeQual's motion, Plaintiffs dispute that the claims require a "binary gas mixture" because, according to Plaintiffs, the term is merely a non-limiting reference within the claim preambles. (*Id.* at 4-7.) Plaintiffs also argue that if the court construes the term, it should construe the term to mean "essentially two gases." (*Id.* at 7-10.) Plaintiffs further maintain that even if the court construes the term to mean a gas mixture that includes two gases, summary judgment is improper because Claims 10 and 12 are apparatus claims and how the apparatuses are used (i.e. whether with a two-gas mixture or a three-gas mixture) is irrelevant to the question of infringement. (*Id.* at 10.) Finally, Plaintiffs contend that the court should deny summary judgment pursuant to Federal Rule of Civil Procedure 56(d) because discovery is not yet complete. (*Id.* at 11-12.)

For the reasons explained below, the court: (1) addresses the merits of SeQual's motion despite the tardy request for claim construction; (2) determines that the preambles in which the term "binary gas mixture" appears are limiting; (3) construes the term to mean "a gas mixture composed of two gases"; and (4) grants SeQual's motion for summary judgment of non-infringement.

A. Preliminary Matter

As a preliminary matter, the court declines Plaintiffs' request to deny the motion because it is an untimely request for claim construction. (*See* Resp. at 3-4.) Plaintiffs are correct that SeQual filed the instant motion for summary judgment after the deadlines for filing the joint claim construction chart and the opening claim construction briefs (*see* Minute Order (Dkt. # 20)), and that the term "binary gas mixture" was not included in either of these filings (*see* Joint Claim Construction Statement (Dkt. # 23); Opening Claim Construction Briefs (Dkt. ## 24, 26)).

Nevertheless, the court "retains discretion to hear belated claim construction arguments." *Boston Scientific Corp. v. Johnson & Johnson*, 534 F. Supp. 2d 1062, 1074 (N.D. Cal. 2007) (declining to entertain claim construction argument made three years after the *Markman* hearing); *see also SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1292 (Fed. Cir. 2005) (noting that district courts have discretion to enforce the local patent rules so as "to control the parties and flow of litigation"). Indeed, claim construction is a question of law that is "exclusively within the province of the court." *Markman*, 517 U.S. at 372. The court, therefore, will exercise its discretion to consider the parties' claim construction arguments regarding the term "binary gas mixture"

because SeQual filed its motion for summary judgment less than a month after the joint claim construction statement was due and the parties have fully briefed the merits of the claim construction issue raised in SeQual's motion. Further, claim construction is a question of law to be decided by the court, and adjudicating the merits of the summary judgment motion at this time serves the interests of judicial economy.

B. Whether the Term "Binary Gas Mixture" is a Claim Limitation

The parties dispute whether the claims require a "binary gas mixture" because the term appears in the preambles, but not the bodies, of the independent claims (Claims 1, 10, and 12). (Mot. at 3; Resp. at 4-6.) "In general, a preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1376 (Fed. Cir. 2005) (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quotation omitted)). "When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention." *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1306 (Fed. Cir. 2005) (quoting *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003)). In short, "when the claim drafter chooses to use *both* the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects." *Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55, F.3d 615, 620 (Fed. Cir. 1995) (emphasis in original).

On the other hand, a preamble generally is not limiting "when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention." *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010) (quoting *Catalina*, 289 F.3d at 809). In such situations, a preamble may merely "state a purpose or intended use for the invention." *Symantec Corp. v. Computer Assocs. Int'l, Inc.*, 522 F.3d 1279, 1288 (Fed. Cir. 2008) (citation omitted).

1. Claim 1

The preamble of Claim 1 recites: "A method of measuring the ratio of gases in a *binary gas mixture* comprising the steps of . . . ." (Patent 5:64-65 (emphasis added).) The steps of the method include, among others: "transmitting a first sound wave from an initial transmission point *through the gas mixture*"; ". . . transmitting an echo wave from said receiving point in the opposite direction, *through the gas mixture*, back to said initial transmission point"; ". . . measuring the travel time from the initial transmission to the time of reception of said echo wave to provide a measure of the relative proportions of the gases in *said mixture*"; and "providing a display indicative of the relative proportions of *said gases*." (Patent 5:66-67, 6:4-17 (emphases added).)

Plaintiffs argue that the term "binary gas mixture" in the preamble is not limiting because "the body of Claim 1 defines a self-contained invention that may be *used* to measure the ratio of gases in a binary gas mixture." (Resp. at 5 (emphasis in original).) SeQual maintains that the body of the claim "incorporates by antecedent reference a 'binary gas mixture' as a claim limitation." (Reply at 5.)

The court agrees with SeQual that the preamble is necessary to give meaning to the claim because the "preamble provides an antecedent basis for terms found in the body of the claim[]." *In re Papst Licensing GmbH & Co. KG Litig.*, 670 F. Supp. 2d 16, 32 (D.C.C. 2009); *see also Seachange*, 413 F.3d at 1376. When the body of the claim refers to "*the* gas mixture," "*said* gases, and "*said* mixture," it is referring to the mixture described in the preamble—the "binary gas mixture." *See Eaton*, 323 F.3d at 1339-40 (holding that preamble limited claim where claim referred to "said vehicle master clutch" and "said drive train" and those terms were described in the preamble); *NTP*, 418 F.3d at 1306 (holding that preamble limited claim where claim referred to "*the* at least one of the plurality of destination processors" and the destination processor was identified in the preamble, and citing *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003) ("[I]t is a rule of law well established that the definite article 'the' particularizes the subject which it precedes. It is a word of limitation as opposed to the indefinite or generalizing force of 'a' or 'an.'" (internal quotation omitted))). Without the preamble, the first step in the method—"transmitting a first sound wave from an initial transmission point *through the gas mixture*"—would be meaningless because the reader would not know to which gas mixture the claim referred. Indeed, the body of the claim does not refer to just any gas mixture; it refers specifically to the binary gas mixture identified in the preamble. The preamble thus limits the claim and does not merely state the purpose or intended use of the method.

2. Claim 10

The preamble to Claim 10, which includes the term "binary gas mixture" and additional references to "said gas mixture," is also limiting. It recites in full:

> In a sensor for determining the composition of a *binary gas mixture*, said sensor including a sealed gas chamber for containing *said gas mixture*, first and second acoustic transducers mounted a predetermined distance apart in said chamber and means for selectively energizing said transducers to transmit acoustic waves through *said gas mixture*, a gas ratio measurement system comprising in combination; . . . .

(Patent 6:60-67 (emphases added).) The body of the claim then goes on to identify and describe a "switching network" and a "microprocessor apparatus." (Patent 7:1-18.) The body of the claim refers back to the transducers and sound waves that are part of the sensor described in the preamble. (Patent 7:1-3.) Numerous dependent claims also refer to "the sensor of claim 10." (*See, e.g.*, Patent Claims 11, 13-16, 18.)

By describing the sensor in detail, the preamble "provides essential structure to the invention not set forth in the body of the claim." *Micron Tech., Inc. v. Tessera, Inc.*, 440 F. Supp. 2d 591, 597 (E.D. Tex. 2006) (citing *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006)). Without reference to the preamble, the body of Claim 10 and all of the dependent claims would be meaningless. Moreover, the preamble refers to the binary gas mixture three times in describing the sensor. Because the preamble to Claim 10 is "essential to understand limitations or terms in the claim body," it limits the scope of the claim. *AFG Indus., Inc. v. Cardinal IG Co.*, 239 F.3d 1239, 1244 (Fed. Cir. 2001).

3. Claim 12

Like the preamble to Claim 10, the preamble to Claim 12 provides a detailed description of a sensor:

> In a sensor for determining the composition of a *binary gas mixture*, said sensor including a sealed gas chamber for containing *said gas mixture*, said chamber comprising a hollow conduit having end walls and an elongated cylindrical side wall, first and second acoustic transducers mounted a predetermined distance apart in said chamber and means for selectively energizing said transducers to transmit acoustic waves through *said gas mixture*, a gas ratio measurement system comprising in combination; . . . .

(Patent 7:27-35 (emphases added).) The body of the claim provides additional information regarding the sensor and refers back to the side walls, conduit, gas ports, transducers, sound waves, and binary gas mixture identified in the preamble. (Patent 7:36-40, 7:59-62.) Further, numerous dependent claims refer to "the sensor of claim 12." (*See* Patent Claims 17, 20-25.)

For the same reasons why the preamble to Claim 10 is limiting, the preamble to Claim 12 is likewise limiting. In particular, the preamble provides essential structure to the claimed apparatus, the claim cannot be understood without reference to the preamble, and the body of the claim relies upon and derives antecedent basis from the preamble. *See, e.g., AFG Indus.*, 239 F.3d at 1244. In short, the preamble is limiting because it is "necessary to give life, meaning, and vitality" to the claim. *Catalina*, 289 F.3d at 808.

C. Claim Construction

1. Claim Construction Standard

The court construes patent claims as a matter of law. *NTP*, 418 F.3d at 1293; *Cybor Corp. v. FAS Tech., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998). In considering the

various sources of evidence of claim term meaning, the court must "attach the appropriate weight . . . to those sources." *NTP*, 418 F.3d at 1293 (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005) (en banc)).

Intrinsic evidence, which includes the patent and its prosecution history, is the primary source from which to derive a term's meaning. *Phillips*, 415 F.3d at 1314. A patent is composed of three parts: (1) a "written description," which includes an often lengthy exposition of the background of the invention, at least one embodiment of the invention, and other written material that assists in understanding how to practice the invention; (2) (in most cases) a set of drawings that illustrates portions of the written description; and (3) the claims, which delimit the scope of the invention. *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1274 (Fed. Cir. 1992). Together, these three components make up the patent's "specification." *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1384 (Fed. Cir. 1999); 35 U.S.C. § 112. The prosecution history exists independently of the patent. It consists of the inventor's application to the United States Patent and Trademark Office ("PTO") and all correspondence between the PTO and the inventor documenting the invention's progress from patent application to issued patent. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

In its review of intrinsic evidence, the court begins with the language of both the asserted claim and other claims in the patent. *Phillips*, 415 F.3d at 1314; *Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1302 (Fed. Cir. 2005) ("It is elementary that claim construction begins with, and remains focused on, the language of the

claims."). The court's task is to determine the "ordinary and customary meaning" of the terms of a claim through the eyes of a person of ordinary skill in the art on the filing date of the patent. *Phillips*, 415 F.3d at 1313 (quoting *Vitronics*, 90 F.3d at 1582); *see also id.* at 1321 ("Properly viewed, the 'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent.").

The court must read claim language, however, in light of the remainder of the specification. *Id.* at 1316 ("[T]he specification necessarily informs the proper construction of the claims."). The specification acts as a "concordance" for claim terms, and is thus the best source beyond claim language for understanding claim terms. *Id.* at 1315. The inventor is free to use the specification to define claim terms as he or she wishes, and the court must defer to an inventor's definition, even if it is merely implicit in the specification. *Id.* at 1316 ("[T]he inventor's lexicography governs."), 1320–21 (noting that a court cannot ignore implicit definitions). The court should "rely heavily" on the specification in interpreting claim terms. *Id.* at 1317. In doing so, however, it must walk a tightrope between properly construing the claims in light of the written description and the "cardinal sin" of improperly importing limitations from the written description into the claims. *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001); *Phillips*, 415 F.3d at 1323 (citing *Comark Commn's, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186–87 (Fed. Cir. 1998)).

Although a patent's prosecution history is also intrinsic evidence, it is "less useful for claim construction purposes" because it usually "lacks the clarity of the

specification." *Id.* at 1317. The prosecution history is useful, however, in determining when an inventor has disavowed certain interpretations of his or her claim language. *Id.*

Finally, the court can consider extrinsic evidence, "including expert and inventor testimony, dictionaries, and learned treatises." *Id.* (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995)). Extrinsic evidence is usually "less reliable than the patent and its prosecution history" as a source for claim interpretation. *Id.* at 1318. The court thus need not admit extrinsic evidence, but may do so in its discretion if intrinsic evidence does not disclose the meaning of a claim term. *Id.* at 1319; *Vitronics*, 90 F.3d at 1583 ("[W]here the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper."). Here, the court is able to determine the meaning of the disputed term based on intrinsic evidence, and therefore it declines to consider the extrinsic evidence offered by the parties.

2. Construction of the Term "Binary Gas Mixture"

In light of the claim language and the specifications, the term "binary gas mixture" means "a gas mixture composed of two gases." As described above, Claim 1 is a "method for measuring the ratio of gases in a binary gas mixture." (Patent 5:64-65.) The method involves: (1) transmitting a sound wave from an initial transmission point through the gas mixture to a receiving point; (2) then, after a given delay, transmitting an echo wave from the receiving point back through the gas mixture to the initial transmission point; (3) "then measuring the travel time from the initial transmission to the time of reception of said echo wave *to provide a measure of the relative proportions of*

the gases in said mixture"; and (4) "providing a display indicative of *the relative proportions of said gases*." (Patent 5:66-67, 6:1-17 (emphases added).)

Claim 2 is a dependent method claim that further includes the steps of: (1) "computing the relative proportions of the gases in *said mixture* with a microprocessor apparatus"; and (2) "controlling the transmission of said first sound wave and said echo wave by said microprocessor apparatus . . . ." (Patent 6:18-22 (emphasis added).) Claim 2's reference to "said mixture" indicates that Claim 2 and Claim 1 involve the same gas mixture, that is, a "binary gas mixture." The specifications further explain that the microprocessor identified in Claim 2 calculates the percentage concentration of a gas constituent according to the following formula:

$$P = C_1 T + C_2 O_1 + C_3 (t_{FB})$$

(Patent 5:29-31.) P is the percentage concentration of measured gas constituent; C_1, C_2, and C_3 are constants for the ultrasonic assembly; T is the temperate of the gas; t_{FB} is the time of travel back and forth through the sensor chamber; and O_1 is an offset value determined at calibration. (Patent 5:36-43.)

The method set forth in Claim 2, which uses the binary gas mixture identified in Claim 1, involves measuring the time for the sound wave to travel back and forth through the sensor chamber, using this value to determine the percentage concentration of one of the gases in the gas mixture according to the formula set forth in the specifications, and then—without additional measurements or calculations—displaying the relative proportions of the "gases" in the mixture. As SeQual explains, because "the claim requires measure of only one gas to display the percentage of gases in the mixture, there

can only be two gases in the mixture."[2] (Mot. at 4.) If there were three or more gases in the mixture, then there would need to be additional measurements and calculations before the display could indicate "the relative proportions of the gases in said mixture." (Patent 6:14-15.) Because neither the method nor the specifications provide for these additional measurements or calculations, the ordinary meaning of the term "binary gas mixture" through the eyes of a person of ordinary skill in the art after reading the entire patent is "a gas mixture composed of two gases." *See Phillips*, 415 F.3d at 1321.

Rather than addressing the language of the '323 Patent, Plaintiffs turn to the patent history to argue that "binary gas mixture" means "essentially two gases." (Resp. at 7.) When the '323 patent was first submitted to the PTO, it was written by the inventor and included 16 apparatus claims and no method claims. (Bodine Decl. (Dkt. # 28) Ex. C-1 (Initial '323 Patent Application) at 20-22[3]; Stern Decl. ¶ 6.) The only independent claim recited:

> A sensor for determining at least one of the standard flow rate and *the content of a gas sample consisting essentially of two known gases*, said sensor comprising first and second piezoelectric transducers mounted a predetermined distance apart, a chamber extending between said transducers, said chamber having first piezoelectric transducer mounted on its first end and a second piezoelectric transducer mounted on its second end, means for gas entrance and exit via a side wall of the said chamber, means for flowing a gaseous element through said chamber, means for applying a single electric wave to said first transducer, means for applying a single electric wave to said second transducer, means for measuring the

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[2] This conclusion holds equally true for Claim 1 because, as discussed above, Claims 1 and 2 involve the same binary gas mixture.

[3] The exhibits to the Bodine Declaration are cited herein according to the pagination provided by CM/ECF.

> time of travel back and forth between the transducers, means for changing transducer roles from transmitter to receiver and vice-versa, means for measuring the temperature of gaseous medium flowing through said chamber, means for generating uniform turbulent flow inside said chamber, means for sealing the said chamber, means for storing and retrieving calibration information, means for generating echo at said second transducer, and means responsive to measured times for the wave to travel in the gas flow direction and against the gas flow direction and in and against the gas flow direction and to temperature and to calibration data for determining at least one of the standard flow rate of the gaseous medium and *the content of a component of the gaseous medium*.

(*Id.* at 20 (emphases added).) The initial draft of the '323 patent did not refer to a "binary gas mixture."

The patent examiner rejected all 16 claims under 35 U.S.C. § 112 "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." (Bodine Decl. Ex. C-2 (Examiner's Action) at 23-24; *see also* 35 U.S.C. § 112 ("The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.").) The examiner cited more specific shortcomings in some of the claims, but did not take issue with the patent's reference to "a gas sample consisting essentially of two known gases." (Bodine Decl. Ex. C-2 (Examiner's Action) at 24.) The patent examiner also rejected the only independent claim under 35 U.S.C. § 102(e) as being anticipated by another patent, but again, did not discuss the gas sample. (*Id.* at 25.)

In response, Plaintiffs[4] hired a patent attorney to entirely rewrite the claims. (Stern Decl. ¶ 6.) Plaintiffs cancelled all of their original claims and replaced them with new claims that, according to Plaintiffs, "are now deemed to more clearly and completely claim the subject matter which applicant regards as the invention." (Bodine Decl. Ex. C-3 (Response) at 34.) Among the new claims were "method claims which include the novel method of measuring the ratio [of] gases in a binary gas mixture . . . ." (*Id.*) Plaintiffs also explained to the patent examiner that "[n]ewly added claim [10] is an apparatus claim which recites the combination in a binary gas mixture sensor of a switching network for alternately conditioning spaced transducers for transmitting and receiving sound waves through the gas mixture." (*Id.* at 35.) None of the new claims included the "essentially two known gases" language of the original claim, and Plaintiffs' remarks to the patent examiner did not specifically address their abandonment of this terminology. (*See* Bodine Decl. Ex. C-1 at 20; Bodine Decl. Ex. C-3 at 34-39.) Plaintiffs, however, explained that "[t]he Examiner's rejection based on 35 U.S.C. 112 is overcome by the redrafting of [the] claims." (Bodine Decl. Ex. C-3 at 37.)

Plaintiffs now argue that because the patent examiner did not indicate any failing of the term "essentially two known gases," none of the changes in the amended claims that now comprise the '323 patent modified the language "essentially two known gases." (Resp. at 7.) Plaintiffs claim that the only reason for this change was that "two different people [(the inventor and the patent attorney who rewrote the claims)] selected different

[4] It is unclear from the record exactly who hired the patent attorney, but it appears that at least one (if not both) of the plaintiffs was involved.

words for the same thing, [and that] the term 'binary gas mixture' was used as a synonym for 'essentially two known gases.'" (*Id.* at 8.)

The court is not persuaded by Plaintiffs' arguments. First, the prosecution history does not clearly support Plaintiffs' position because the record is silent regarding why Plaintiffs' new claims involved a "binary gas mixture" rather than a mixture of "essentially two known gases." (*See generally* Bodine Decl. Exs. C-1, C-2, and C-3.) Where the prosecution history is unclear, it is "less useful for claim construction purposes." *Netcraft Corp. v. eBay, Inc.*, 549 F.3d 1394 (Fed. Cir. 2008) (relying on the specification, rather than the prosecution history, in determining the ordinary meaning of the claim term because prosecution history was unclear); *see also Phillips*, 415 F.3d at 1317. In fact, the change in terminology suggests that there is a difference between a "binary gas mixture" and "essentially two known gases"; if the terms had exactly the same meaning, there would have been no reason to make the change in the revised application, which was intended to overcome the rejection based on 35 U.S.C. § 112. (*See* Bodine Decl. Ex. C-3 (Plaintiffs' Response to Patent Examiner's Rejection) at 37 ("The Examiner's rejection based on 35 U.S.C. 112 is overcome by the redrafting of [the] claims.").)

Second, in response to the patent examiner's rejection of Plaintiffs' original claims (all of which were apparatus claims), Plaintiffs asserted method claims that, by their own terms, require a gas mixture composed of two gases, not "essentially two" gases. As discussed above, it would be impossible to calculate the "relative proportions of the gases in [the] mixture" with the microprocessor described in the specifications, unless the gas

mixture contained only two gases. The microprocessor calculates the concentration of only one gas constituent, and the only way to determine the relative proportions of all of the gases in the mixture based on this information is if there are only two gases. If there were more than two gases in the mixture, the display identified in the last step in Claim 1 would not indicate "the relative proportions of said gases." (*See* Patent 6:16-17.) Accordingly, the court concludes that Plaintiffs did not use "binary gas mixture" as a synonym for "essentially two known gases" when they submitted their revised claims to the PTO. The prosecution history does not change the court's determination that "binary gas mixture" means "a gas mixture comprised of two gases."[5]

D. Motion for Summary Judgment of Non-Infringement

1. Summary Judgment Standard

Summary judgment is appropriate if the pleadings, the discovery and disclosure materials on file, and any affidavits, when viewed in the light most favorable to the nonmoving party, "show[] that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986); *FreecycleSunnyvale v. Freecycle Network*, 626 F.3d 509, 514 (9th Cir. 2010); *Galen v. Cnty. of L.A.*, 477 F.3d 652, 658 (9th Cir. 2007). The moving party bears the initial burden of showing there is no genuine issue of material fact and that he or she is entitled to prevail as a matter of law. *Celotex*, 477 U.S. at 323. If the moving party meets its burden, the nonmoving party must go

[5] Based on the court's analysis of this issue, it need not address SeQual's arguments regarding prosecution history estoppel.

beyond the pleadings and identify facts which show a genuine issue for trial. *Cline v. Indus. Maint. Eng'g. & Contracting Co.*, 200 F.3d 1223, 1229 (9th Cir. 2000). The non-moving party "must make a showing sufficient to establish a genuine dispute of material fact regarding the existence of the essential elements of his case that he must prove at trial." *Galen*, 477 F.3d at 658. Furthermore, as the Ninth Circuit teaches, "[b]ald assertions that genuine issues of material fact exist are insufficient," and a mere scintilla of evidence supporting a party's position is also inadequate. *Id.*

In patent infringement cases, summary judgment is appropriate when it is apparent that only one conclusion as to infringement could be reached by a reasonable jury. *See Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316 (Fed. Cir. 2001) (citing *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 540 (Fed. Cir. 1998)); *U.S. Phillips Corp. v. Iwasaki Elec. Co. Ltd.*, 505 F.3d 1371, 1374-75 (Fed. Cir. 2007) ("Summary judgment on the issue of infringement is proper when no reasonable jury could find that every limitation recited in a properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents.").

2. Analysis

To establish a claim for direct patent infringement, a plaintiff must show that the defendant "without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor . . . ." 35 U.S.C. § 271(a). To establish literal infringement, a plaintiff must show that every limitation set forth in a claim is found in the accused product. *See, e.g., Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570,

1575 (Fed. Cir. 1995). Under the doctrine of equivalents, the patent holder must show that the accused device contains elements that are equivalent to the claim limitations that are not literally present in the accused device. *See, e.g., Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1316 (Fed. Cir. 1999). Plaintiffs here do not assert a theory of infringement under the doctrine of equivalents.

SeQual contends that it is entitled to a summary judgment of non-infringement because its allegedly infringing devices (the Eclipse and Integra series devices) use ambient air, which is comprised of three primary gases (Bodine Decl. Exs. E and F), and all of the claims in the '323 patent require a binary gas mixture (Mot. at 1-2, 7-9). As evidence, SeQual submits the testimony of Peter Armstrong, a project manager at SeQual who has been involved in the development of the Eclipse (also known as the Omni) and Integra devices. (Armstrong Decl. (Dkt. # 29) ¶ 2.) Mr. Armstrong testifies that the Eclipse and Integra series devices are designed for and are used to concentrate the oxygen out of ambient air. (*Id.* ¶ 3, Ex. G (Specifications for the Eclipse).) Mr. Armstrong testifies that the purpose of these devices is to be usable anywhere a user might find themselves, without the need to have a tank or a particular feed gas other than the air in the environment. (Armstrong Decl. ¶ 3.) Mr. Armstrong further testifies that after the oxygen concentration is performed, the gas fed out of the Eclipse or Integra devices and measured by the gas measuring device still has a composition including at least Oxygen, Nitrogen, and Argon. (*Id.* ¶ 4; *see also id.* Ex. H (Charts Showing Composition of Output Gases from Eclipse and Integra Devices).) SeQual maintains that because the

Eclipse and Integra devices do not measure a binary gas, they cannot infringe the '323 patent. (Mot. at 8.)

The court concludes that SeQual has met its initial burden on summary judgment of showing that there are no disputed questions of fact and that SeQual is entitled to judgment as a matter of law. SeQual's evidence, even when viewed in the light most favorable to Plaintiffs, establishes that the accused devices use ambient air, which includes three primary gases. Under the court's construction of the '323 patent, each claim requires a "binary gas mixture," which means "a gas mixture comprised of two gases." Because Plaintiffs may only prevail if they show that every limitation in a claim is found in the accused product, *Southwall Techs.*, 54 F.3d at 1575, and SeQual has shown that its devices do not use a "binary gas mixture," SeQual is entitled to a summary judgment of non-infringement unless Plaintiffs come forward with facts that establish a genuine issue for trial.

Rather than coming forward with evidence that the accused devices have been used with a binary gas mixture, as would defeat summary judgment, Plaintiffs contend that the court's ruling on the instant motion should be continued to allow for additional discovery.[6] (Resp. at 11.) Plaintiffs maintain that discovery has just started in earnest and that they are "still learning about the various uses and permutations of the accused

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[6] Plaintiffs also argue that the court should deny summary judgment because how the sensor apparatuses recited in Claims 10 and 12 are used (i.e. with a binary gas mixture or a mixture comprised of more than two gases) is irrelevant to the question of whether the accused products include sensors that are constructed as recited in Claims 10 and 12. (Resp. at 10.) In light of the court's determination that "binary gas mixture" is a claim limitation, it rejects Plaintiffs' argument.

products." (*Id.*) Plaintiffs therefore assert that SeQual's motion is premature under Federal Rule of Civil Procedure 56(d).[7] (*Id.*)

Rule 56(d) states: "If a nonmovant shows by affidavit or declaration that, for specified reasons, it cannot present facts essential to justify its opposition, the court may: (1) defer consideration of the motion or deny it; (2) allow time to obtain affidavits or declarations or to take discovery; or (3) issue any other appropriate relief." Fed. R. Civ. P. 56(d). To obtain relief under Rule 56(d), "[t]he requesting party must show: (1) it has set forth in affidavit form the specific facts it hopes to elicit from further discovery; (2) the facts sought exist; and (3) the sought-after facts are essential to oppose summary judgment." *Family Home & Fin. Ctr., Inc. v. Fed. Home Loan Mortg. Corp.*, 525 F.3d 822, 827 (9th Cir. 2008); *see also Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1363 (Fed. Cir. 2005) ("Regional circuit law governs practice under [Rule 65(d)] in this court."). "Failure to comply with these requirements 'is a proper ground for denying discovery and proceeding to summary judgment.'" *Family Home*, 525 F.3d at 827 (quoting *State of Cal. on behalf of Cal. Dep't of Toxic Substances Control v. Campbell*, 138 F.3d 772, 779 (9th Cir. 1998) (internal citation omitted)); *see also Spirtos v. Allstate Ins. Co.*, 173 Fed. Appx. 538, 541 (9th Cir. 2006) (affirming district court's denial of Rule 56(d) motion where "the motion was not supported by the required affidavit and did not otherwise satisfy the rule's explanatory requirements"). The requesting party must

[7] Rule 56(d) was formerly Rule 56(f). Fed. R. Civ. P. 56 (notes to 2010 amendments).

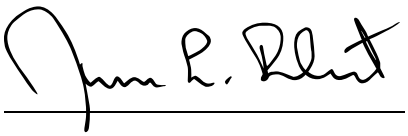
bring its Rule 56(d) motion before the summary judgment hearing. *United States v. Kitsap Physicians Serv.*, 314 F.3d 995, 1000 (9th Cir. 2002).

Plaintiffs have not satisfied the requirements of Rule 56(d), and therefore the court denies their request for additional discovery. Plaintiffs' request is not accompanied by an affidavit, which is itself grounds to deny the motion. *See Campbell*, 138 F.3d at 779 (affirming denial of Rule 56(d) motion where defendants made implicit request for additional time for discovery). Even after SeQual pointed out this shortcoming in its reply brief (Reply at 13), Plaintiffs did not move the court for leave to file a supplemental affidavit. Further, Plaintiffs' request is insufficient because there is no evidence suggesting that the facts Plaintiffs hope to elicit actually exist. *See Family Home*, 525 F.3d at 827. Because Plaintiffs have not justified their request for additional discovery or submitted any evidence that would create a genuine issue of material fact, the court grants a summary judgment of non-infringement to SeQual.

IV. CONCLUSION

For the foregoing reasons, the court GRANTS SeQual's motion for summary judgment of non-infringement (Dkt. # 27).

Dated this 6th day of January, 2012.



JAMES L. ROBART
United States District Judge